

# Use of Collaboration Assignments to Support Online Learning Communities

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**Abstract** - During the past few decades, increased use of information and communication technologies has led to educational innovations such as synchronous and asynchronous online collaboration tools and learning management systems. The range of information and communication technologies that are now available can support many types of collaboration that would have been previously impossible. Instructors can use information and communication technologies to facilitate collaboration that might not otherwise take place between on-campus and online learners, and between learners in different countries and universities. In collaborative learning environments, a community of inquiry supports student learning. Successful learning communities can increase learner motivation, facilitate deep learning, and reduce the potential isolation that online learners often experience. This paper provides an overview of relevant literature. The paper then outlines collaboration assignments that postgraduate students undertake in technical communication and instructional design courses. Many instructors are interested in developing their awareness of, and expertise in, innovative online teaching practices; to that end, this paper presents a number of teaching cases.

**Index Terms** – Collaboration assignments, learning communities, information and communication technologies, online learning.

## BACKGROUND AND LITERATURE

Information and communication technologies (ICTs) have become commonplace as a means of facilitating engagement and collaboration among university students. While they can benefit campus-based courses, they are essential for online teaching and learning. The range of ICTs now available to instructors and learners has increased in the past two decades, commensurate

with increasing use of, and dependence on, technologies more generally [1], [2].

The availability of such tools increases pedagogical diversity and experimentation [2]. In universities, learning management systems (LMSs) are essential supports for teaching and learning. LMSs can be open source or commercial, are usually customized by institutions, and include a variety of tools, both synchronous and asynchronous. Synchronous tools such as online chat and videoconferencing tend to encourage richer communication because they can facilitate immediate feedback, non-verbal cues, and personalization [3]. While asynchronous tools such as discussion forums and email are used mainly for delayed interactions, these tools can yield more constructive responses than synchronous tools, as participants have time to consider questions and reflect on their answers. Other LMS tools include repositories for learning resources, announcements, calendars, and assessment and grading tools [1], [3]. In addition to LMSs, most online instructors use, or encourage their students to use, additional external collaboration tools to support learning and community development. Multiple authors can use collaborative authoring tools at the same time and the sharing of files over the cloud enables version control.

## I. ICTs for collaboration and innovation

ICTs can facilitate many types of collaboration that might not otherwise take place. Savenye, in a discussion of interactive learning supports, explains how many online learning environments “enable our students to learn in ways that are not easy to do, and sometimes not even possible, in a campus-based classroom” [4, p. 159]. A global virtual team assignment, supported by ICTs for collaboration, is one example of a learning activity that could not take place without technology.

Although ICTs support various types of innovation, instructors who teach online need to consider how best to integrate ICTs to increase engagement, and

ultimately to improve pedagogical outcomes [2]. Engaging students requires “multiple ways of creating meaningful communication between students and with their instructor” [5, p. 8]. A multiplicity of approaches, such as described later in this paper, can facilitate student engagement.

## *II. ICTs to support learning communities*

Many researchers describe the potential for ICTs to support communities of inquiry or learning communities e.g. [6], [7]. Wenger *et al.* [7, p. 24] refer to the concept of technology stewardship. They explain how “technology stewarding adopts a community’s perspective to help a community choose, configure, and use technologies to best suit its needs.” Online instructors regularly take on the role of technology stewards, directing students towards collaboration tools that will form or strengthen learning communities.

The community of inquiry model [6] describes how deep learning occurs when an online learning environment facilitates three types of “presence”: teaching, social, and cognitive presence. Teaching presence refers to the role and activities of an instructor in setting up and managing the learning environment. Social presence is formed through online communication among students, and involves both social and task communication. Cognitive presence refers to how knowledge and critical thinking skills are constructed. The educational experience occurs through the interaction of teaching, social and cognitive presence [6].

The remainder of this paper describes collaboration assignments that postgraduate students undertake in technical communication and instructional design courses. These assignments exploit the benefits of learning communities. The assignments are supported by technology and underpinned by research into online pedagogy.

### ASSIGNMENTS THAT FOSTER COLLABORATION

At the University of Limerick, in Limerick, Ireland, we teach technical communication and instructional design courses in two postgraduate programs—the MA in Technical Communication and E-Learning and the Graduate Certificate in Technical Writing. The MA program runs online and on-campus, to both groups simultaneously, so on-campus students collaborate with online students, and vice-versa. The Graduate Certificate program only runs online but students in that program take some of the MA courses so both groups interact with one another. We recognize, therefore, the need to find multiple ways to engage students in collaboration and to enable learning communities to

develop and thrive, regardless of where students are physically located.

This section outlines three types of assignment that replicate workplace realities, where practitioners collaborate, supported by ICTs, to produce successful outcomes. In a global virtual team assignment, students in different countries work together on a common task. In peer review assignments, students share and offer feedback on drafts of work. In development assignments, students offer technical support and advice to peers.

#### *I. Global virtual team assignment*

This assignment features in a course on learning and collaboration technologies, which is offered to MA students. The course is taken by on-campus and online students. In the assignment, students work in global virtual teams, with students from universities in the US (University of Central Florida) and France (Université Paris Diderot), to complete documentation projects, supported by collaborative technologies. We organize students into teams, each team comprising at least two members from each country. The assignment spans six weeks. In the first three weeks, Irish and US students in each team collaborate to produce short instructional documents in English. In the second phase (also three weeks), their French teammates translate the documents and localize them if required. Research about this project [8] indicates that teams with strong socioemotional communication and good leadership skills have the best experiences and outcomes. Therefore, we encourage all students to collaborate from the outset, and to use collaboration technologies to get to know one another and to build swift trust, another key attribute of successful teams [3]. All teams have access to a project site on an LMS, which provides them with a choice of collaboration tools; however, teams may also use external tools, provided they submit a transcript of the team communications or grant their instructors access to the tools. We assess both the collaboration and the final documents, and we provide support throughout the duration of the project.

In addition to collaborating in teams to write a document, students also maintain individual blogs, reflecting on their experiences of virtual teamwork and online collaboration.

Participating in a virtual team gives students a flavor of the challenges and rewards of working in a globalized environment, a reality in many workplaces [3]. By enabling students to use different tools and requiring them to collaborate in teams and reflect privately, we facilitate the development of communities of inquiry [6]. Students also develop important transferable skills (e.g., communication, collaboration, and articulation)

and are prepared for the challenges of international virtual collaboration and global citizenship [9].

## *II. Peer review assignments*

In this section, we will describe the nature of two peer review assignments. In a theory of technical communication course, students in both programs undertake a peer review activity. During the course, students learn about theories of technical communication and how to undertake research in the discipline. This course has one on-going assignment where students begin by writing a literature review, followed by a research proposal and finally a full report based on a research project they complete. To help students design appropriate research projects, they discuss their proposals in online groups. Students receive instructions about how to use the forums and the discussion is graded. The activity runs over one week, with milestones as follows:

- Students are divided into groups of four/five. Each group has its own discussion forum.
- Each student posts his/her draft proposal in the group discussion forum early in the week (by Tuesday at the latest).
- Each student reads the proposals of the three/four other students in the group and posts feedback on those proposals in the forum, by Wednesday at the latest.

When commenting on other students' proposals, they are encouraged to consider questions such as:

- 'What theoretical ideas are involved?'
- 'How will you conduct that study?'
- 'Can the study be completed in the time available?'

Each student revises and re-posts his/her proposal based on the comments of the other members of the group. If group members have additional helpful suggestions about their peers' revised drafts, they may post them, but they are not required to do so.

The instructor is not active in the forum during the week, but weaves in and out of each group forum and comments if the conversation needs to move forward or if students need to be nudged in another direction [10]. The instructor also posts general feedback in each group's forum, about the quality of discussion and the quality of draft proposals, at the end of the week.

In Fall 2016, this activity generated 322 posts among eight teams.

Comments from students within the groups indicated that the exercise strengthened their sense of community [6] and deepened their learning. In two cases, groups continued to use the forums after the week-long activity,

indicating its impact on their learning and nascent community formation [6].

In an instructional design course, students undertaking the MA also undertake a peer review activity. Students propose topics for e-learning courses through a series of e-tivities. E-tivities are tasks that are housed within the discussion forum but do not necessarily comprise 'discussion' topics. Salmon, who coined the phrase 'e-tivities' [1] proposes an ideal template for e-tivities, comprising a title, objective, a 'spark' (e.g. a thought-provoking image or statement), and specific instructions about how to complete the e-tivity (what, where, when, and how). Each e-tivity in this course feeds into the next e-tivity, thereby providing students with a scaffold on which to build their final proposal for the course [10]. The first e-tivity, the needs assessment, requires students to justify the need for a new e-learning course, outlining the typical characteristics of the target audience, and providing any other relevant details that might help the instructor assess the quality of the submission. Furthermore, each student is required to comment on any two proposals submitted by peers, suggesting additional resources that might prove useful and offering advice about how best to approach that topic. Due to the variety of topics proposed, all students succeed in finding two (sometimes more) proposals that they can comment on.

On receipt of the needs assessment feedback from the instructor and peers, each student then continues with the other e-tivities—outlining some tasks they propose to teach in the course, writing objectives that will inform the assessment in the e-learning course, proposing media specifications (e.g. typography, color, and graphics), and outlining an initial course plan/structure.

Peer review provides students with much-needed feedback about the topics they propose to develop and helps them complete the final course assignment—the e-learning course proposal. The peer review feature also gives students insight into how peers are approaching the e-tivity and facilitates knowledge construction [10].

## *III. Development assignment*

In the interactive workshop course, students typically undertake a problem-based learning assignment using an animation tool. In one such assignment, students assumed the role of freelance Flash developers, who were commissioned by an e-learning company to design and develop interactive weather forecast presentations for a shopping center kiosk. While students were given guidelines on what they must incorporate into the presentation, they could decide on the look-and-feel, color, icons, typography, and navigation.

To facilitate the development of a learning community [6], students were also encouraged to:

- Post new discussion topics when requesting assistance from other students. Students were advised to use (for example) '[RFA] How do I...?' in the subject field, where RFA stands for 'Request for Assistance'.
- Reply to requests for assistance, posted by other students.
- Post useful tips or solutions, which other students may find useful. Students were advised to use (for example) '[UTS] An alternative way to... ' in the subject field. The instructor also posted useful tips/hints from time-to-time.

A class of 16 on-campus students generated 73 posts and 18 topics in the 'Q&A' discussion forum. Fourteen of the topics were questions that received follow-on answers from peers and/or the instructor and four were useful tips and solutions that students chose to share with peers. Topics ranged from converting text to symbols, writing coding for buttons, using a gradient for colors, and preventing images on stage from disappearing in preview mode.

This assignment is beneficial because, in addition to helping peers, students often found solutions to their own technical problems. By helping each other solve technical problems, students become technology stewards [7].

#### CONCLUSIONS

With careful planning and management, instructors can use information and communication technologies to facilitate the development of learning communities among online students and those who attend on-campus classes. Furthermore, ICTs can support virtual team projects that span continents and time zones. As students engage in assignments differently, and sometimes adopt different approaches and reach different outcomes, instructors should offer a variety of assignments that challenge students to develop their digital, collaboration, and online communication skills. Through collaborating in learning communities, students experience deep learning and develop transferable skills that prepare them for globalized workplaces. This paper presents teaching cases that illustrate different activities and learning outcomes that could be adapted by instructors in similar disciplines.

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